

**Claims:**

1. A method in making of mechanical pulp, where the amount of organic dissolved and colloidal substances is reduced in the pulp making process water by treating a part of the process water, **characterised in** that the treating comprises at least the following steps:
- process water filtrate separated from the pulp to be made by a press (5) located before bleaching, is led to pre-treatment (8), where elongated fibres are fractionated from the process water to be treated,
  - the filtrate that has passed the pre-treatment (8) is led to membrane filtration (9), where at least part of the organic dissolved and colloidal substances included in the process water are separated from the rest of the process water, and
  - membrane filtration concentrate, i.e. the colloidal and dissolved substances separated from the process water, are led to further treatment and the permeate i.e. the process water that has passed the membrane filtration is led back to the pulp making process.
2. A method according to Claim 1, **characterised in** that the elongated fibre's fraction separated in the filtrate in the pre-treatment (8) is led back to the pulp making process.
3. A method according to Claim 1 or 2, **characterised in** that the membrane filtration is carried out by using membranes whose retention capacity is 200 - 150,000 g/mol.
4. A method according to Claim 3, **characterised in** that the membrane filtration is carried out by using membranes whose retention capacity is approximately 20,000 - 150,000 g/mol.

5. An arrangement according to any of the above mentioned Claims, **characterised in** that membrane filtration concentrate is disposed of by burning.

6. An arrangement in making of mechanical pulp to reduce the amount of organic dissolved and colloidal substances in the pulp making process water by treating a part of the process water **characterised in** that the arrangement comprises at least:

- means for leading the process water filtrate, separated from the pulp being made with a press located before bleaching, to a pre-treatment means,

- pre-treatment means (8, 8') for fractioning the elongated fibres from the process water being treated,

- means for leading the filtrate, which has passed the pre-treatment means, to the membrane filtration means (9, 22, 24),

- membrane filtration means (9, 22, 24) for separating at least part of the organic dissolved and colloidal substances included in the process water from the rest of the process water, and

- means for leading the membrane filtration concentrate i.e. colloidal and dissolved substances separated from the process water to further treatment (12), and means (23) for leading the permeate i.e. the process water passed through the membrane filtration (9) back to the pulp making process.

7. An arrangement according to Claim 6, **characterised in** that the pre-treatment means (8) comprise one or more pressure screens (8').

8. An arrangement according to Claim 6 or 7, **characterised in** that the membrane filtration means (9) comprise at least one membrane filter (22, 24).

9. An arrangement according to any of the above mentioned Claims 6 - 8, **characterised in** that the membrane filtration means (9) comprise several membrane filters (22, 24) arranged in series.

10. An arrangement according to Claim 9, **characterised in** that the membrane filtration means (9) comprise at least two membrane filter sets arranged in parallel.

5 11. An arrangement according to any of the above mentioned Claims 8 - 10, **characterised in** that the retention capacity of the membrane filter (22, 24) is 200 - 150,000 g/mol.

12. An arrangement according to Claim 11, **characterised in** that the retention capacity of the membrane filter (22, 24) is 20,000 - 150,000 g/mol.

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13. An arrangement according to any of the above mentioned Claims 6 - 12, **characterised in** that the arrangement comprises means for mixing the membrane filtration concentrate into a supporting medium, for example, wood bark and/or saw dust.